

My NASA Connections

- Prospective study of NASA personnel (?)
- JSC : Scott Smith, Barbara Rice
- Health Sciences Panel for Space Flight
- Astronaut nutrition



Worksite Internet Nutrition Program

(WIN)

- The goal: dietary behavior change
 - Small steps
- Development funded by the California Cancer Research Program
- Developed by Block Dietary Data Systems



How does it work?

- Delivered directly to user's email inbox
- 12 weekly tailored emails
- Confidential

7 vs. 52%



How does it work?

- Initial email
 - •Fat and FV screeners → instant results
 - Everyone gets these regardless of whether they decide to sign up
 - Opportunity to sign up, baseline questions
 - Lifestyle questions to determine tailoring



No burden on administrators

- Administrator forwards initial email containing dietary screener
- After the initial email to potential participants, the program is automatic
- Tailoring is achieved by program in response to baseline lifestyle questionnaire



What does it include?

- Dietary <u>screeners</u> with immediate feedback
- Assessment of <u>readiness</u> for change
- Weekly information on diet and health
- •<u>Tips</u> and <u>goals</u> <u>tailored</u> to individual lifestyles
- Weekly goal-setting



Guided by scientific principles:

- Relevance to the individual
- Tailored to user's diet and lifestyle characteristics
- Social support through worksite and family
- Goal-setting and personal commitment
- Small steps promote success, confidence



- Through dietary screening to bring direct awareness of where their diet could be improved
- Through tailoring to their own dietary lifestyle

Meats and Snacks	1/MONTH or less	2-3 times a MONTH		3-4 times a WEEK	5+ times a WEEK
Hamburgers, ground beef, meat burritos, tacos	0	0	0	0	0
Beef or pork, such as steaks, roasts, ribs, or in sandwiches	0	0	0	0	0
Fried chicken	0	0	0	0	0
Hot dogs, or Polish or Italian sausage	0	0	0	0	0
Meats and Snacks	1/MONTH or less	2-3 times a MONTH	1-2 times a WEEK	3-4 times a WEEK	5+ times a WEEK
Cold cuts, lunch meats, ham (not low-fat)	0	0	0	0	0
Bacon or breakfast sausage	0	0	0	0	0
Salad dressings (not low-fat)	0	0	0	0	0
	^	_	^	_	0
Margarine, butter or mayo on bread or potatoes	0	0	0	0	0



Dietary Fat

Your diet is very high in fat, probably 40-50% of calories. There is evidence that diets so high in fat may increase your risk of heart disease and certain cancers. Experts recommend that it be less than 30%. Try eating some of your high frequency meats and snacks less often, and fill up on grains, fruits and vegetables.

Look at the foods you eat most often:

- · Hot dogs, or Polish or Italian sausage
- · Cold cuts, lunch meats, ham (not low-fat)
- Salad dressings (not low-fat)
- Margarine, butter or mayo on bread or potatoes
- · Margarine, butter or oil in cooking
- Cheese, cheese spread (not low-fat)
- · Corn chips, potato chips, popcorn, crackers
- Doughnuts, pastries, cake, cookies (not low-fat)

You don't have to give up your favorites completely, just eat them less often or in smaller portions.

Tailored

- To lifestyle characteristics that constrain behavior
 - Eat out a lot, vs. eat home a lot
 - Person does cooking, vs. someone else
 - Kids at home, vs. not



- At worksite, talking with colleagues
- At home: family members encouraged to sign up

Components of each weekly message

- Did you know...
- Health notes
- Links
- Tips (tailored)
- Goal-setting (tailored)

BERKELEY NUTRITION SERVICES



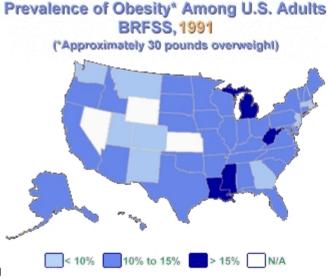
Did you know . . .

If you trim just 1 tablespoon of fat such as oil, real mayonnaise or butter from your diet every day, you would lose over 10 pounds in a year!

And America needs that weight reduction. Since 1985, we've seen an "obesity epidemic" sweep across America, becoming a major threat to our national health. The <u>Centers for Disease Control</u> surveys the nation's health every year with their Behavioral Risk Factors Surveillance System (BRFSS). The image at the right shows the increase in obesity rates, by state, between the years 1991 and 1998.

Health notes . . .

Change-of-pace week. Let's step back and remind ourselves why we're doing this, and review what we've learned. You joined this program in order to improve your nutrition, your health and how you feel - either by eating more fruits and vegetables, or eating less fat. So please take a minute and think about how you've done.





Did you know . . .

...Regular soft drinks are the #1 source of calories in the U.S. diet today.

Annual Soft drink production in the U.S. (#12-ounce cans per person)



The next five top sources of calories, for U.S. adults:

#2: Sweets like cakes, doughnuts, pastries

#3: White bread

#4: Pizza

#5: Hamburgers, cheeseburgers

#6: Beer

Health notes

Health notes . . .

We'll make it brief this week, but here's some news about healthy babies.

Folic Acid reduces the likelihood of birth defects. You have probably heard about the B vitamin, folic acid, also known as folate and folacin. Due to overwhelming evidence that folic acid prevents neural tube defects such as Spina Bifida, the Federal Government has recommended that everyone who could become pregnant should get 400 micrograms every day. It is important to get it all the time, because it has its benefit well before most people even know they are pregnant.

To make it easier, in 1998 the government mandated that manufacturers of grain and cereal products fortify their foods with folic acid. While the most commonly eaten natural sources of folate are orange juice, dried beans and green leafy vegetables such as spinach, due to fortification the most concentrated sources (and the most bioavailable --

A few good sources of folate	Serving size	Micrograms Folate/Folic Acid			
Super fortified breakfast cereal	1⁄₂-1 cup	400			
Breakfast cereal, enriched	1⁄₂-1 cup	100			
Pasta, rice, enriched, cooked	1 cup	80-90			
Beef liver, cooked	3 oz.	185			
Beans like lentils, black beans	½ cup	115-180			
Spinach, cooked	½ cup	100			
Strawberries	8 medium	80			

WHERE CAN I LEARN MORE?

National Cancer Institute
American Dietetic Association

Learn more...

What is cancer?

Contact the experts

What kinds of research studies have shown the health benefits of fruits and vegetables?

How can I possibly eat 5-7 servings of fruits and vegetables???

Tips & ideas

Tips and ideas . . .

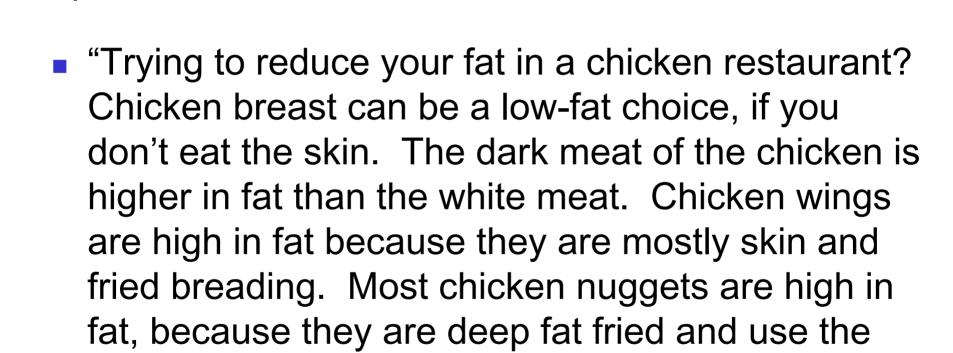
Eat different kinds of vegetables and fruits each day. Each vegetable or fruit has its own unique package of disease-preventing nutrients and plant compounds. Variety is the spice of life!

Always keep a variety of frozen and canned fruits and vegetables readily available.

Here's an easy way to add more vegetables to your dinner. Just double up! If you usually take one scoop of mashed potatoes, take two. Instead of just one spoonful of peas, have a second. It doesn't get easier than this!

If you or your family members don't like fruits and vegetables, try this. Everyone likes SOME fruits or vegetables. Hold a family meeting, and make a list of the ones everyone likes. Serve yourself and your family more of what they already like.





fattier parts of the chicken."

Tips & ideas

Tips and ideas . . .

If you eat a lot of margarine or butter, try these ideas: Use half the amount you usually use – spread it thin. Use soft tub margarine or liquid margarine – it has less of the "bad" fat. Use jam or jelly on toast instead of margarine or butter. Use fat-free salad dressing or salsa on baked potatoes instead of margarine or butter. Instead of butter, add low fat sour cream or buttermilk to mashed potatoes. Delicious!

It's hard for you to eat lowfat, when your family doesn't want to. Here are some ideas. When you go shopping, let your kids pick out one new low-fat food to try. They may find they like some of them like graham crackers, angelfood cake, nonfat yogurt, lowfat saltines or other crackers, soft pretzels. Your kids may want to get involved when you try out new recipes.

Trying to reduce your fat in a chicken restaurant? Chicken breast can be a low-fat choice, if you don't eat the skin. The dark meat of the chicken is higher in fat than the white meat. Consider a white meat choice. Stay away from the "extra batter" choices. Chicken wings are high in fat because they are mostly skin and fried breading. Most chicken nuggets are high in fat, because they are deep fat fried and use the fattier parts of the chicken.

Soups are great fillers and can be healthy and lowfat. If you use canned soups, use lowfat milk to reconstitute, rather than whole milk. Check the label on the cans and go for those which are lower fat. Go for broth-based, milk-based and tomato based soups.

Lifestyle tailoring: Kids at home

"It's hard for you to eat low-fat, when your family doesn't want to. Here are some ideas. When you go shopping, let your kids pick out one new low-fat food to try. They may find they like some of them, like graham crackers, angelfood cake, nonfat yogurt, lowfat saltines, soft pretzels. Your kids may want to get involved when you try out new recipes."



Small Steps to Try for One Week

- I will have one more vegetable with dinner every day this week
- I will buy bananas to have on my cereal or pancakes this week
- I will buy fruit juice and have a glass with breakfast three days this week
- I will have a piece of fruit for a snack three days this week

Small-step goals to choose

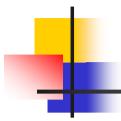
Please choose one or two of the following goals to pursue next week:
We didn't hear from you last week, so please choose one or two new steps for this week.
\square I will try to eat one new fruit and one new vegetable this week (different from what I usually eat).
🗖 I will buy a variety of canned and frozen fruit to have on hand and eat one more serving of fruit on 3 days
this week.
I will increase my vegetables 3 days this week by just "doubling up".
\square I will hold a family meeting this week to identify fruits and vegetables to add to the week's menus.



Opportunity for full diet questionnaire

- Not required an option
- Free as part of the program

Full Diet Questionnaire



eat, not counting juices? How often did you eat cold cereal?

Stick margarine

Soft tub margarine

How often did you use fat or oil in cooking?

What kinds of fat or oil did you usually use in cooking? MARK ONLY ONE OR TWO

Don't know, or Pam Butter/margarine blend Lard, fatback, bacon fat

Low-fat margarine

Corn oil, vegetable oil

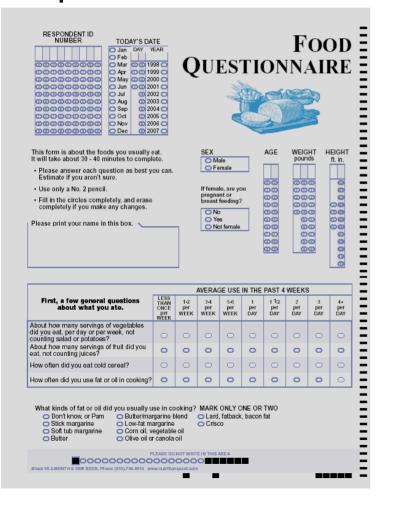
0000000000	998 O	Q	Ul	ES'	TI	ON	_		OD RE	
This form is about the foods you usually It will take about 30 - 40 minutes to comp • Please answer each question as best y Estimate if you aren't sure. • Use only a No. 2 pencil. • Fill in the circles completely, and erase completely if you make any changes. Please print your name in this box.	lete. ou can.		pregna breast O No O Ye	emale ale, are yo not or feeding?		AGE	999	ds	HEIGHT ft. in.	
			AVERA	GE USE	IN THE	PAST 4	WEEKS	3		
First, a few general questions about what you ate.	LESS THAN ONCE per WEEK	1-2 per WEEK	3-4 per WEEK	5-6 per WEEK	1 per DAY	1 ¹ /2 per DAY	2 per DAY	3 per DAY	4+ per DAY	
About how many servings of vegetables did you eat, per day or per week, not counting salad or potatoes?	0	0	0	0	0	0	0	0	0	
About how many servings of fruit did you										п

Nutrient data

Macronutrients
Micronutrients
Antioxidants
Carotenoids
Phytoestrogens

 Individualized computer-generated dietary advice

BLOCK FOOD FREQUENCY QUESTIONNAIRES



- Full, Brief, screeners
- Adults, Kids
- Physical activity
- Online
- PC standalone
- Paper and pencil

Where was it piloted?

- California corporate worksite
- 84 signed up (about 40% of those to whom it was offered)
- 73% female
- 41% children at home
- 54% budget-conscious regarding food
- Families were invited to participate



Publication

- Block et al.
 - CDC Journal, Preventing Chronic Disease
 - Oct, 2004
 - www.cdc.gov/pcd/issues/2004/oct/ 04_0034.htm



Results: Satisfaction, Usability

- 83% read at least half the emails
- 70% said they learned something new
- 83% tried to make dietary changes
- 83% would recommend the program
 - Among the budget-conscious, 100%
 - Among men, 100% would recommend
- 57% talked with someone at home about improving their diets



Results: Stage of Change Dietary Fat

- Among those not already at the top, 65% had upward movement in Stage of Change
 - p<0.0001</p>
- p<0.001 even when non-respondents are set to zero change



Results: Stage of Change Fruits and Vegetables

- Among those not already at the top,
 74% had upward movement in Stage of Change
 - p=0.003
- p<0.01 even when non-respondents are set to zero change

4

Results: Decrease in Fat Intake

- Among Respondents to Evaluation:
 - -0.39 times per day
 - p<0.0001</p>
- Among all original participants:
 - Set non-respondents to zero change:
 - -0.22 times/day
 - p=0.013

Results: Increase in Fruits and Vegetables

- Among Respondents to Evaluation:
 - +0.73 times per day
 - p<0.001</p>
- Among all original participants:
 - Set non-respondents to zero change:
 - +0.37 times/day
 - p=0.002



Limitations

- Not a randomized, placebo-controlled clinical trial
 - One now in design
- Imperfect dietary assessment



Summary

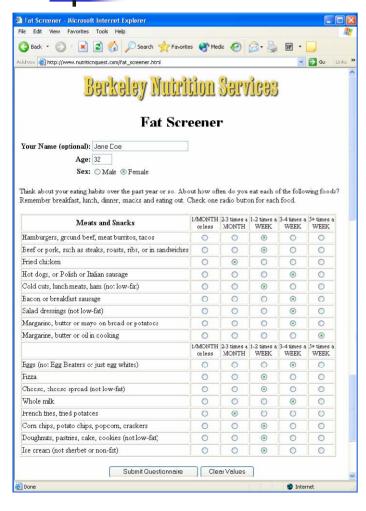
- Appears to be effective
- Cost-effective
- Can reach employees, families, HMO clients

www.nutritionquest.com



■ Thank you.

Brief Dietary Screening Tools



- Fat intake
- Fruit / vegetable / fiber
- Soy foods
- Folate / DFE
- Calcium / Vitamin D

- COMPLETED IN 5 MINUTES
- VALIDATED